Missouri Secretary of State Robin Carnahan
Records Services Division
presents

Introduction to Electronic Records

Workshop 2 in the Missouri Electronic Records Education and Training Initiative

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Presented by:
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Provided under contract with:

*e*Visory

Objectives

At the end of this session, you should:
- Understand the elements of electronic records management
- Understand terminology differences from both RM and IT perspectives
- Recognize the differences between public and personal records, and various federal and state laws impacting electronic records
- Understand the methods used to create electronic records and various formats for electronic records
- Understand how to apply the records management basics of inventory, retention and maintenance to electronic records

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Elements of Electronic Records Management

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Introduction

- Life-Cycle
- Definition Reviews
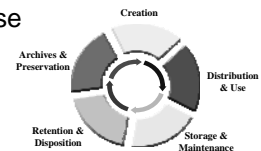- RM and IT Semantic Issues

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Life Cycle

- Life Cycle Management of Records & Information
- Information Life Cycle Management

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Life Cycle Management of Records & Information

- Creation/Receipt
- Maintenance & Use
- Disposition

6

Information Life Cycle Management (ILM)

- Definition
- Elements
- Applying Retention

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ILM Definition

- The policies, processes, practices, services and tools used to align the business value of information with the most appropriate and cost effective infrastructure from the time information is created through its final disposition.
- Information is aligned with business requirements through management policies and service levels associated with applications, metadata, and data.

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ILM Elements

- **IT Infrastructure**
  - **Business Requirements**
    - management of Information used by a Business Process
  - **Business Framework**
    - management of Applications and Information

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ILM Elements

- **Goals Management:**
  - Provides the abstraction and the transformation of these goals into policies that it implements in the **Network, Compute, and Storage Infrastructures**, and through **Data Management** and **Information Management Services**
  - Provides feedback to the business regarding the costs, risks, and status.

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Definition Review

Record

- Recorded information, regardless of medium or characteristics,
- created, received, and maintained by an organization
- that is evidence of its operations in pursuance of legal obligations or in the transaction of business,
- and that has value requiring its retention for a specific period of time.

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Definition Review

Document

- A single record item
- Consisting of one or more pages
- May be a record or may become a record at some later point

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Definition Review

Enterprise Content Management (ECM):

- The technologies, tools, and methods used to capture, manage, store, preserve, and deliver content across an enterprise

- Includes electronic document management, electronic records management, data warehousing, data mining, database management, web management, etc.

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Additional Terms and Definitions

- **GLOSSARY OF ELECTRONIC RECORDS TERMS**
  - Office of the Secretary of State State of Missouri
  - Records Services Division

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RM & IT Semantic Issues

- RM & IT role confusion
- Semantic differences – but are they?
  - Archive
  - Backup
  - File
  - Record

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Definition Sources

- ANSI/ARMA 10-1999, *Glossary of Records and Information Management Terms*, ARMA International, 2000
- ANSI/AIIM TR2-1998, *Glossary of Document Technologies*, AIIM International, 1998
- ISO/IEC 2382 (Parts 1-34), *Information Technology – Vocabulary*, International Organization for Standardization and International Electrotechnical Commission, 1993-2000

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Archive

- RM
  - Used primarily as repository for historical information
  - Hard media perceived as being cared for and preserved for perpetuity
- IT
  - Used primarily as an off-line, less expensive means of storage
  - For active access or file backup

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Standard Definitions of Archive(s)

- **ANSI/ARMA 10-1999**
  1. The records created or received and accumulated by a person or organization in the course of the conduct of affairs, and preserved because of their historical or continuing value.
  2. The building or part of a building where archival materials are located.
  3. The agency or program responsible for selecting, acquiring, preserving, and making available archival materials.

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Standard Definitions of Archive(s)

- **ISO/IEC 2382**
  - (**Part 8**) To store backup files and any associated journals, usually for a given period of time.
  - [*archive file*] – A file set aside for later research or verification, for security, or for any other purpose.
  - (**Part 27**) [*electronic archive*] – A collection of documents in a storage device for historical purposes or as a backup.
- **ANSI/AIIM TR2-1998**
  - n/a

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Backup

- RM
  - Duplicate of a record or groups of records
  - Used primarily for protection in case of loss or destruction of original
  - Stored off-site
- IT
  - Duplicate of files or applications
  - Used primarily for protection in case of loss or destruction
  - Also used for file restoration
  - Conceptually – stored off-site, however often stored on-site for quick access and restoration

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Standard Definitions of Backup

- **ANSI/ARMA 10-1999**
  1. The process of duplicating information primarily for protection in case the original is lost or destroyed.
  2. A copy of the record.
- **ISO/IEC 2382**
  - (Part 8) [*backup procedure*] – A procedure to provide for data restoration in case of a failure or a disaster.
  - [*backup file*] – A file made for possible later data restoration.

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Standard Definitions of Backup

- **ANSI/AIIM TR2-1998**
  - Means of protecting valuable information and data.
  - **Backup may take the form of:**
    - 1) duplicating microforms, tapes or disks on which information is stored;
    - 2) providing a system with an alternate power source to protect data in volatile memory in the event of a power failure; and/or
    - 3) providing a redundant system.

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File

- **RM**
  - An organized grouping of related records
  - Rules for various filing methods
  - Accepted methods of organizing groups of files
- **IT**
  - A group of records to be stored or processed as a unit
  - No rules or preferred practices for organizing or labeling
  - Choices left up to users

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Standard Definitions of File

- **ANSI/ARMA 10-1999**
  1. A collection of related records filed together usually in reverse chronologic order.
  2. The action of arranging documents into a predetermined sequence.
  3. A cabinet housing file folders containing documents.
  4. A named set of records stored or processed as a unit electronically.

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Standard Definitions of File

- **ISO/IEC 2382**
  - (Part 1) A named set of records stored or processed as a unit.
- **ANSI/AIIM TR2-1998**
  - (1) Collection of records; an organized collection of information directed toward some purpose.
  - (2) Data stored for processing by a computer or computer-output microfilmer.

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Record

- **RM**
  - Primarily used as evidence of a transaction, decision, instruction, action, evaluation, etc.
  - Has specified administrative, legal, fiscal and historical **value to the organization**
- **IT**
  - A group of data elements related to a common subject
  - Value is the data it represents and the information it is meant to convey

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Standard Definitions of Record

- **ANSI/ARMA 10-1999**
  - Recorded information, regardless of medium or characteristics, made or received by an organization that is evidence of its operations, and has value requiring its retention for a specific period of time.

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Standard Definitions of Record

- **ISO/IEC 2382**
  - (Part 4) A set of data elements treated as a unit.
  - [*logical record*] – A record whose data elements are related from a logical viewpoint, independently of their physical environment.
  - [*physical record*] – A record located in one physical position on a data medium or in a storage device.
  - (Part 17) [*in databases*] – A data object that is an instance of a record type.

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Standard Definitions of Record

- **ANSI/AIIM TR2-1998**
  1. Group of one or more words containing related information about a common subject. One or more records make up a file.
  2. To copy or set down information in some form for future use.
  3. Any information that is stored by any device.
  4. Number of fields that relate to a single item within the database.
  5. In workflow, collection of related items of data treated as a unit. Refers to items in a database. Each item is represented by a record that consists of one or more fields.

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RM & IT Terminology Comparison

Term	ANSI/ARMA 10-1999	ISO/IEC 2382	ANSI/AIIM TR2-1998
archive(s)	1. The records created or received and accumulated by a person or organization in the course of the conduct of affairs, and preserved because of their historical or continuing value. 2. The building or part of a building where archival materials are located. 3. The agency or program responsible for selecting, acquiring, preserving, and making available archival materials.	(Part 8) To store backup files and any associated journals, usually for a given period of time. [*archive file*] – A file set aside for later research or verification, for security, or for any other purpose. (Part 27) [*electronic archive*] – A collection of documents in a storage device for historical purposes or as a backup.	n/a
backup	The process of duplicating information primarily for protection in case the original is lost or destroyed. 2. A copy of the record.	(Part 8) [*backup procedure*] – A procedure to provide for data restoration in case of a failure or a disaster. [*backup file*] – A file made for possible later data restoration.	Means of protecting valuable information and data. Backup may take the form of 1) duplicating microforms, tapes or disks on which information is stored; 2) providing a system with an alternate power source to protect data in volatile memory in the event of a power failure; and/or 3) providing a redundant system.
file	1. A collection of related records filed together usually in reverse chronologic order. 2. The action of arranging documents into a predetermined sequence. 3. A cabinet housing file folders containing documents. 4. A named set of records stored or processed as a unit electronically.	(Part 1) A named set of records stored or processed as a unit.	(1) Collection of records; an organized collection of information directed toward some purpose. (2) Data stored for processing by a computer or computer-output microfilmer.
record	Recorded information, regardless of medium or characteristics, made or received by an organization that is evidence of its operations, and has value requiring its retention for a specific period of time.	(Part 4) A set of data elements treated as a unit. [*logical record*] – A record whose data elements are related from a logical viewpoint, independently of their physical environment. [*physical record*] – A record located in one physical position on a data medium or in a storage device. (Part 17) [*in databases*] – A data object that is an instance of a record type.	(1) Group of one or more words containing related information about a common subject. One or more records make up a file. (2) To copy or set down information in some form for future use. (3) Any information that is stored by any device. (4) Number of fields that relate to a single item within the database. (5) In workflow, collection of related items of data treated as a unit. Refers to items in a database. Each item is represented by a record that consists of one or more fields.

Sources:
- ANSI/ARMA 10-1999, *Glossary of Records and Information Management Terms*, ARMA International, 2000.
- ANSI/AIIM TR2-1998, *Glossary of Document Technologies*, AIIM International, 1998
- ISO/IEC 2382 (Parts 1-34), *Information Technology – Vocabulary*, International Organization for Standardization and International Electrotechnical Commission, 1993-2000

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Electronic RM Issues
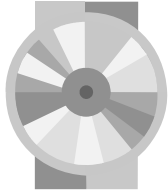
- Retention and disposition
- Compatibility
- Preservation
- Contingency Planning
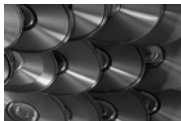- Legality

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Retention & Disposition

- Applying Retention Schedule
- Disposition Applications

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Compatibility

- System integration
- Standardization
- Storage & Memory
- Conversion

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Storage Media & Preservation

- Migration
- Conversion to other media
- Enterprise content preservation

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Contingency Planning

- Vital records identification
- Backup! Backup! Backup!
  - Tape/disk
  - Mirroring
  - Web-based

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Preserve & Protect

- Content Protection
  - Security
  - Contingency Planning
- Preserve
  - Archive
  - Migration

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Web-based Contingency Services

- Electronic vault
- Data warehouse
- Automatic, online backup
- Online recovery

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Compliance, Legality & Security

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What records are public?

- Public Records
- Official Records
- Personal/Confidential/Security Records
- Discoverable Records

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Statutory

- Public and Business Records, RSMo Ch. 109
  - State and Local Records Law, RSMo 109.200 – 109.310
- Missouri Sunshine Law, RSMo Ch. 610
- U.S. Privacy Act
- Electronic Signatures in Global & National Commerce Act

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Missouri State and Local Records Law

- Gives the responsibility for establishing standards and procedures for the management of public records to the Secretary of State
- Defines "Record"

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Definitions of "Record"

- "Record" – document, book, paper, photograph, map, sound recording or other material, regardless of physical form or characteristics, made or received pursuant to law or in connection with the transaction of official business. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience of reference, and stocks of publications and of processed documents are not included within the definition of records as used in sections 109.200 to 109.310, and are hereinafter designated as "nonrecord" materials

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Definitions of "Record"

- "Local record" – any record not a state record
- "State record" – any record designated or treated as a state record under state law

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Missouri State and Local Records Law

- Secretary of State, Records Services defines "official records" as:
  - (1) Significant, vital, or important records of continuing value to be protected, managed, and retained according to established **records schedules**. Often, but not necessarily an original.
  - (2) In law, an official record has the legally recognized and judicially enforceable quality of establishing some fact.

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Missouri State and Local Records Law

- Secretary of State, Records Services defines "personal papers" as:
  - Documentary materials belonging to an individual that are not used to conduct agency business.
  - Related solely to an individual's own affairs or used exclusively for that individual's convenience.
  - Must be clearly designated as such and kept separate from the agency's records.
  - Also called *personal files* or *personal records*.

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Missouri Sunshine Law

- Meetings, records, votes, actions, and deliberations of public governmental bodies be open to the public unless otherwise provided by law
- Except to the extent disclosure is otherwise required by law, a public governmental body is authorized to close meetings, records and votes, to the extent they relate to the specifically listed 21 exceptions
- Public records presumed open unless exempt

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U.S. Privacy Act

- 5U.S.C. §552a as of 01/23/2000
- Information must be used for the purpose for which it is collected
- In general information shall not be disclosed to other agencies without permission of person – some statutory exceptions
- Agencies must keep accurate records of date, nature and purpose of each disclosure
- Allow access to personal information by the person

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Electronic Signatures in Global & National Commerce Act

- 15 U.S.C. §7001 enacted on June 30, 2000
- Also known as the E-Sign Act
- Nullifies the assertion that a document signed electronically is unenforceable or invalid
- Broadly authorizes the retention of electronic documents, including images, in place of paper originals

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Electronic Signatures in Global & National Commerce Act

- Permits the electronic creation and maintenance of documents requiring notarization
- Addresses the negotiability of a limited class of electronic documents such as promissory notes
- Addresses automated agents – removes obstacle

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Electronic Signatures in Global & National Commerce Act

- Constrains federal agencies from promulgating regulations inconsistent with the act
- Act is self-policing
- Explicitly seeks compatibility with foreign law
- Does not specify preferred technologies, allows flexibility
- Some exceptions

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Break

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Legality

- Documented Policy & Procedures
- Audit Trails
- Documented Security Controls
- Version Control

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ANSI/AIIM TR31

Legal Acceptance of Records Produced by Information Technology Systems
- Trustworthy system
- System assessment criteria
- Form of evidence
- Process of system used to produce records
- Documentation
- Access and availability

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Types of Electronic Records

- Controlled
  - Controlled by centralized EDMS or electronic inventory system
  - Can be listed and tracked on databases
- Un-controlled
  - Not controlled by any practical application of technology
  - Under individual user control

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Electronic Records Formats

55

Electronic Document Management Systems

● (EDMS) – software applications designed to electronically control and manage documents and files which have been converted to or created in digital format.

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Electronic Reports Management

Management of electronically generated reports through use of:

- COLD
- workflow components
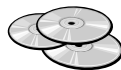- browser-enabled search
- full-text search capabilities

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COLD

- An integrated software and hardware solution
- Stores and indexes formatted computer output (pages) on hard digital/magnetic media or a server
- Accessed by users as an alternative to paper printouts or COM

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COLD

Storage and access options

- Compact disc, optical disk
- SQL Server
- RAID

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Electronic Correspondence Management

- Digitally created correspondence
- What e-mail is a record?
  - Correspondence
  - "Non-records"
  - Other records

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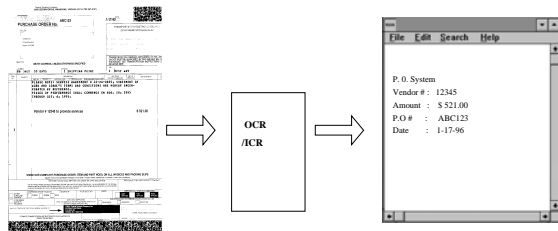## Electronic Correspondence Management

- Retention
- Storage
- Disposition

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Forms Processing Software

- Converts text from completed forms into data
- Used as an input function

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Forms Processing Software

OCR /ICR

P. O. System
Vendor # : 12345
Amount : $ 521.00
P.O # : ABC123
Date : 1-17-96

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Enterprise Content Management

- Ability to capture, create, customize, deliver and manage enterprise content
- Supports business processes
- Key enablers of e-Business
- Includes content/document management, business process management, enterprise portals, knowledge management, image management, data warehousing, and data mining

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Web-enabled Document Management Technologies

- Provides users with access to more applications within a common user interface
- Enables browser based access to document repositories
- Enables users to save information in user-selectable standard formats
- Enables thin-clients (or applets) to check information in/out of the repository

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Data Warehouse

- Central repository for data collected by an enterprise's various business systems
- Data is selectively extracted from various on-line transaction processing applications and other sources
- Analytical applications and user queries are applied to the repository

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Data Warehouse

- Emphasizes the capture of data from diverse sources for useful analysis and access
- Does not generally start from end user or knowledge worker point-of-view

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Data Mart

- Repository of data gathered from operational data and other sources
- Designed to serve a particular community of knowledge workers for a particular designed purpose

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Data Mart

- Emphasis is on meeting the specific demands of a particular end-user group of knowledge users in terms of analysis, content, presentation, and ease-of-use
- Users can expect to have data presented in terms that are familiar
- May or may not derive from a data warehouse

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Data Warehousing Elements

- Data Acquisition
- Data Modeling and Schema
- Meta Data
- Data Management
- Data Analysis
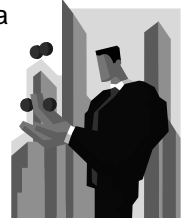
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Data Acquisition

- Processes involved in identifying, capturing, and transforming data in operational systems so they can be loaded into a data warehouse or data mart.

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Data Modeling

- Analysis of data objects that are used in a business or other context
- The identification of the relationships among these data objects
- A first step in designing an object-oriented programming
- Result allows the definition of the class and/or subclasses that provide the templates for program object

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Schema

- The organization or structure for a database
- Activity of data modeling leads to a schema
- Sometimes refers to a visualization of a structure and sometimes refers to a formal text-oriented description

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Meta Data

- The glue that holds together all the components and views of a data warehouse
- A definition or description of data
- In words related to data and information, the prefix "meta" carries the meaning of "more comprehensive or fundamental"

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Meta Data

- Extensible Markup Language (XML), describes how to describe a collection of data; this is sometimes referred to as metadata
- In XML, "meta" connotes "underlying definition" or set of rules
- In other usages, "meta" can connote "description" rather than "definition"

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Data Management

- Access and storage mechanisms that support the data warehouse
- Relational database
- Multidimensional database
- Specialized database

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Data Analysis

- Data Mining
- Enterprise Business Intelligence Suites
- Decision Support System

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Electronic RM Issues

- When is Data a Record?
- Archiving web sites
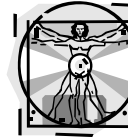- Applying Retention/Disposition to web content

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Lunch

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Electronic Engineering, Architectural and Cartographic Materials

- Definitions
- Engineering Drawing Systems
- CAD
- GIT

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Definitions

- Architectural drawings - representation of man-made structures, intended to show how they will appear when completed.
- Engineering drawings - representation of man-made objects, intended to show how they will appear when completed.
- Cartographic drawings - represent a part or the whole of the earth or a celestial body, intended to show how they are when viewed from a given location, at a given time.

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Engineering Drawing Systems

- Drawings are essential to all manufacturing businesses, utilities, numerous government operations, land development firms, real estate companies, and many other organizations.
- Modern engineering drawing systems utilize electronic methods of drawing creation, storage and access

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CAD

- Computer Assisted Drafting (CAD)
  - Combination of hardware and software that enables drafting and design
  - Foundation of a CAD drawing is a structured data file (sometimes referred to as a "data set") consisting of numbers and text with a set of instructions to display them as a graphic (drawing)
  - Most drawings consist of multiple files

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CAD Records Issue

- What constitutes the record drawing:
  - Multiple files can represent one drawing and one drawing can produce multiple views (or pages)
  - Easy to produce many versions of a drawing
  - Electronic "record" drawing must be clearly defined

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CAD Drawing

- Drawings/designs are vector graphics with three-dimensional coordinates (*x*, *y*, and *z*)
- Each coordinate assigned a value which represents a point in a line or shape

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CAD Drawing

- Vector drawings must be converted into a raster graphics image in order to:
  - Map bits directly to a printer or plotter to produce a hardcopy of the drawing
  - To use data in the tables comprising the drawing in other software applications

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GIT

- Geospatial Information Technology
  - GIS (Geographic Information Systems)
  - Remote sensing
  - Thematic mapping
  - Image processing
  - Global positioning systems (GPS)
  - Telemetry

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Definitions

- Geospatial Information Technology
  - The Geospatial Information Technology Association (GITA) – technology that (1) relates assets to their geographical location for spatial reference and analysis, and (2) relates assets to each other by configuration and network connectivity for applications and analysis of circuit or flow models.

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Definitions

- Geospatial Information Technology
  - The United States Geological Service (USGS) Biological Resources Division –the science and tools used to acquire, store, analyze, and output data in two or three dimensions, and referenced to a geographical location by some type of real-world coordinate system.

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Geospatial Information Technology

- Is wide-spread in Engineering and Security environments
- 3-D modeling commonly used in manufacturing environments
- Query results can be a record (i.e. a map, a scan, a model)

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Geographical Information System (GIS)

- A GIS is a computer system designed to allow users to collect, manage, and analyze large volumes of spatially referenced and associated attribute data.

- A GIS lets you query or analyze a database and receive the results in the form of a map.

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Geographical Information System (GIS)

- Geographic information is described explicitly in terms of geographic coordinates (latitude and longitude, represented as an x axis and a y axis and sometimes a z axis) or implicitly in terms such as street address, postal code or forest stand identifier.

- A GIS contains the ability to translate implicit geographic data into an explicit map location.

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GIS Map – NN Property
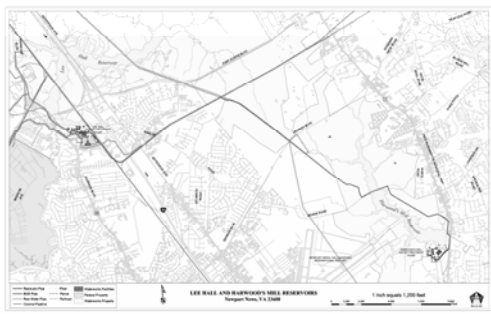
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3-D Modeling

- 3-D graphics generates and displays three-dimensional objects in a two-dimensional space (monitor screen) by adding a depth property indicating an additional point on an imaginary z axis.

- 3-D software represents three-dimensional objects on a computer, includes CAD/CAM, computer games, and animation packages.

- 3-D modeling is the process of representing three-dimensional objects in a computer by rendering real-world objects as a set of mathematical equations. All 3-D applications perform modeling.
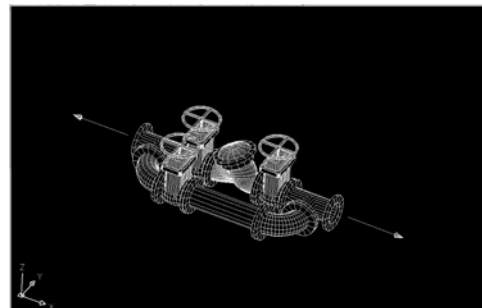
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3-D Model – "paper" view
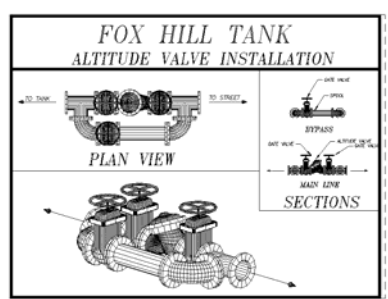
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3-D Model – 3-D view

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GIT Impact on RM

- Defining the "record"
- Retention Scheduling
- Vital records
- Validity of sources
- Scheduling sources
- Standard terminology and compatibility between softwares and software versions

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Defining the "record"

- What is the record?
- Databases, sources, attributes, themes, shapes
- Metadata
- Snapshot in time - .pdf

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Defining the "record"

- Involve or reflect any rights of the organization, customers or employees?
- Needed to defend the organization against charges of data fraud or misrepresentation?
- Useful to other geospatial data users or the broader geospatial research community?
- Other users need access to data resources or raw data for functional use?
- Vital or disaster mitigation function?

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What is scheduled?

- Defined Record
- Databases, sources, attributes, themes, shapes, etc. as necessary elements
- Sources (data libraries, etc.)

100

What is scheduled?

- Is the data expensive or difficult to replicate?
- Will the data be useful for analyzing geographic distributions over time?
- Does the data support the study of geophysical changes over time?
- Is the data integrated with newer data - resurveying, improved methods of data collection and integration?

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Vital Records

- Significant costs or consequences to the organization if the data are lost?
- Is the data created by the organization or obtained from other established sources?
- Have the data been made available to other users through organizational data sharing agreements, data user services, or a clearinghouse?

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GIT Impact on RM

- Role of metadata
- Databases, sources, attributes, themes, shapes as necessary parts of the query result

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Geospatial Records Appropriate for Preservation

- Records in GIT data bases that provide evidence of the organization, policies, programs, decisions, procedures, operations
- Broad body of geospatial data representing historical trends, patterns, etc.

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Geospatial Data Base System Considerations*

- Every data set, record, or file in the system should have a designated retention period
- Geospatial data creators should preserve records designated as permanent including both the data and the appropriate documentation (systems docs, procedures, attributes, etc.)
- The hardware and software systems design must ensure data integrity
- *Federal Geographic Data Committee, USGS

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Use of GIT as Effective RM Tool

GIS access to related document images
- Engineering drawings
- Real Estate documentation – deeds, easements, rights-of-way
- Emergency Management tool

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Use of GIT as Effective RM Tool

3-D Modeling
- Version Control
- Big picture vs. multiple documents

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Break

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Electronic Records Control

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Electronic Records Management

- Software designed to electronically complete Records Management tasks for analog *and* digital records:
  - applying retention schedules
  - generating disposition lists
  - identifying vital records, tracking distribution/return
  - managing records storage, and
  - maintaining an inventory

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Electronic Records Management

- Also used to control and manage *physical* documents and files, generally in *hard media* format (analog).

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Electronic Document Management

- Integration of input technologies, management technologies & storage technologies
- Software applications designed to electronically control and manage documents and files which have been converted to or created in digital format

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Electronic Document Management

Can include:
- Document imaging
- Document services
- Workflow
- Electronic Reports Management
- Electronic Correspondence Management
- Electronic Forms Management

113

Imaging

- Process of capturing, storing and retrieving documents
- Regardless of original format
- Film-based or electronic

Input   View / Edit   Output

Storage

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Imaging

- Input
  - Scanner, microfilm camera, COM recorder
- Identification
  - Indexing
- Storage
  - Server, microfilm format, imaging media
- Retrieval
  - Microfilm reader, image media drive and monitor, client access to server

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Document Services

Enables secure management of electronic documents:

- security controls
- access levels and controls
- check-in/check-out controls
- version update distribution
- conversion to accessible formats

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Workflow

- Automation of business processes, in whole or in part
- Documents, information or tasks are passed from one participant to another for action
- According to a programmed set of rules
- Enables users to control the process logic in various environments

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Automated Workflow Systems

Uses information technologies to:

- Support the collection of work steps and tasks needed to carry out a business process
- Facilitate sharing among users across a network or with access to an intranet/internet

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Automated Workflow Systems

- Transaction-based system
- Ad hoc system

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Transaction-based system

- Primary function is routing documents quickly and accurately through the necessary work steps
- Processes large numbers of documents
- Uses rigid, highly productive procedures
- Simple indexing
- Usually in conjunction with electronic-forms processing software and electronic imaging systems

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Ad hoc system

- Primary function is making the current version of a document available for reference and revision, routing is a secondary function
- Processes fewer documents
- Uses more flexible procedures
- Complex indexing

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Electronic Forms Management

- Software designed to perform two functions:
  - Forms processing
  - Forms routing
- Incorporates character recognition technologies with other processing and routing operations:
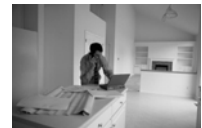 - OCR
  - ICR
  - OMR

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Forms Routing Software

- Uses imaging to route completed forms, blank forms, and processed forms data
- Essential component of automated workflow system
- Useful for information distribution, production and security

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EDMS for Engineering Drawings

- Most engineering environments require additional specialized functionality:
  - Managing the engineering content to provide adequate inter-relationships between the drawing graphic, datasheets, calculations, geophysical data, analysis results and financial projections
  - Making all current drawings available for viewing and editing in a secure environment, while simultaneously protecting the integrity of the original image

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EDMS for Engineering Drawings

- Raster-to-vector and vector-to-raster conversion ability
- Redlining or revision draft capabilities coupled with approval workflow processes
- Auto-indexing from TIFF images to populate pre-defined property fields in the index
- Providing a launch mechanism or a gateway into the CAD application
- Providing thumbnails of TIFF images as part of the drawing property screens

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EDMS for Engineering Drawings

- Compatibility with multiple CAD applications to allow the import, index, and viewing of drawings from different sources
- Interaction with Work Order and Geographic Information Systems to allow access to the drawing repository from these systems

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Questions?

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